CLAIMS

The following is claimed:

1. A system for a fusion reactor comprising:

a fuel ring, the fuel ring including a charged particle, the charged particle having a controlled spiral trajectory, the fuel ring rotational with respect to the controlled trajectory of the charged particle;

the controlled spiral trajectory of the charged particle within the fuel ring described by a Larmor radius;

the controlled spiral trajectory of the charged particle bounded within a magnetic field; and

a reaction chamber formed by the magnetic field.

2. The system for a fusion reactor system of claim 1, wherein the magnetic field exerts a force of constant origin on the charged particle, and the magnetic field exerts a pulsed force on the charged particle; and

a nuclear magnetic resonant control of the charged particle within the reaction chamber provided by the combination of the force of constant origin and the pulsed force.

3. The system for a fusion reactor system of claim 1, wherein the magnetic field forms a plurality equidistant nodes, each equidistant node including one of the charged particles.

4. The system for a fusion reactor system of claim 1, wherein the sum of magnetic fields includes a vertical conductor along the center of the nuclear reaction chamber; and
a second reactor is placed adjacent to the nuclear reaction chamber having a second vertical conductor, the second vertical conductor in unity with the vertical conductor of the nuclear reaction chamber.

5. The system for a fusion reactor system of claim 1, wherein the Larmor radius describes a spiral path trajectory for the charged particle;
the position of the charged particle describable by a wave function;
the wave function includes a guiding center;
and the guiding center approximates the spiral path trajectory; and
the fuel ring contains the charged particle.

6. The system for a fusion reactor system of claim 1, wherein the fuel ring includes a plurality of charged particles;
the plurality of charged particles counted in an accumulator; and
the accumulator for regulating a feed of the charged particles into the fuel ring, and the accumulator for controlling a fusion reaction rate.

7. The system for a fusion reactor system of claim 6, wherein a control of a resident time within the fuel ring is provided by a compression of the fuel ring; and
the compression of the fuel ring defined by the plurality of charged particles occupying a

declining horizontal block of volume, and the plurality of charged particles have an increasing density,

8. The system for a fusion reactor system of claim 7, wherein the ring compression is dependent upon an external curve of the reaction chamber, the external curve of the reaction chamber having a concave curvature in relation to a central axis of the reaction chamber.

9. A system for a fusion reactor comprising:

a fuel ring, the fuel ring comprising a plurality of charged particle;

a magnetic field coil for generating a multiple element magnetic field;

the multiple element magnetic field for concentrating and confining the fuel ring within the fusion reactor, and each element of the multiple element magnetic field having a field strength value;

the field strength value for each element of the multiple element magnetic field variable in magnitude, to control the fuel ring;

the fusion reactor includes an accelerator, the accelerator for accelerating the plurality of charged particle in the fuel ring, and the fuel ring within the accelerator having a form of an expanding spiral; and

the fusion reactor includes a compressor, the compressor for compressing the plurality of charged particle in the fuel ring with the multiple element magnetic field, and the fuel ring within the compressor having a form of a declining spiral.

10. The system for a fusion reactor system of claim 9, wherein the fusion reactor includes a generator, and the generator recovers a fusion product and generates electricity.

11. The system for a fusion reactor of claim 9, additionally comprising a plasma generator, the plasma generator for generating the fuel ring.

12. The system for a fusion reactor system of claim 11, wherein:
the accelerator receives the fuel ring from the plasma generator;
the compressor focuses the fuel ring into a reactor chamber; and
the reactor chamber contains a fusion reaction of the plurality of charged particle of the fuel ring.

13. The system for a fusion reactor of claim 12, wherein:
the fusion reactor includes a central axis, and the accelerator includes an accelerator exterior, and the accelerator exterior includes an inward surface curve, the inward surface curve depressed toward a central axis; and
the fuel ring proximately follows the inward surface curve of the accelerator.

14. The system for a fusion reactor system of claim 12, wherein:
the fusion reactor includes a central axis, the compressor includes a compressor exterior, and the compressor exterior includes an outward surface curve, the outward surface curve distended away from the central axis; and

the fuel ring proximately follows the outward surface curve of the compressor.

15. The system for a fusion reactor of claim 12, wherein:

the fusion reactor includes a polar axis, the polar axis oriented normal to a central axis of the fusion reactor, and the multiple of magnetic fields including an outer curve;

the outer curve of the magnetic fields directed along the polar axis from the central axis within the reactor;

a spiral ring trajectory formed at the outer curve, for containing the fuel ring, the fuel ring introduced into the reactor at a fuel ring inlet; and

an upward vector of magnetic field force formed on the ring spiral trajectory as the charged particle of the fuel ring move through the magnetic field, the upward vector of magnetic field force directed parallel to the central axis, toward the fuel ring inlet of the reactor.

16. The system for a fusion reactor of claim 15, wherein:

the fuel ring moves in a plane of rotation, the plane of rotation proximately parallel to the polar axis of the reactor, and each of the multiple of magnetic fields includes a magnetic field force vector; and

a resultant vector sum of the multiple of magnetic field force vectors causes the plane of rotation to move toward the reaction chamber.

17. The system for a fusion reactor of claim 16, wherein:

the plane of rotation to moves toward the reaction chamber at a velocity of downward movement, and the magnitude of velocity of downward movement of the plane of rotation incrementally decreases as the vertical angular velocity of the ring spiral trajectory incrementally increases.

18. A lithium fueled system for a fusion reactor comprising:

a first fuel ring, the first fuel ring comprising lithium nuclei;

a first reactor for converting the lithium nuclei of the first fuel ring into alpha particles by a nuclear fusion reaction;

a first magnetic field coil for concentrating and confining the first fuel ring within the first reactor;

a second fuel ring, the second fuel ring comprising lithium nuclei;

a second reactor for converting the lithium nuclei of the second fuel ring into alpha particles by a nuclear fusion reaction;

a second magnetic field coil for concentrating and confining the second fuel ring within the second reactor;

a generator for recovering fusion products from the first reactor and the second reactor.

19. The lithium fueled system of claim 18, additionally comprising:

a plasma generator for generating the first fuel ring and the second fuel ring.

20. The lithium fueled system of claim 18, wherein the generator generates electricity.